

California-Nevada RFC (originally known as the Sacramento RFC)

The Early Years

Joe Strahl: I was a charter member of Sacramento Federal-State River Forecast Center. We started operation in 1963 with a one ton IBM 1620 and a 2 ton IBM 4--- printer. Input and Output was by card or a typewriter. Output cards had to be printed on the monster 410(?). Most of us now have home PC's performing amazing feats in nanoseconds that the 1620 could not do in months. We promised to take over forecasts in Northwest California from the Portland RFC during 1964 and spent many months hurriedly preparing forecast procedures. We were barely ready for the devastating Dec 1964 floods when they occurred. There were always turf battles over joint responsibilities with the State people. In addition to flood forecasts we were making Water Supply Forecasts since California enjoyed precipitation mostly in winter and had dry summers with a vast need for irrigation and power from water stored in reservoirs and snow packs. Measuring water content of snow packs was a great challenge and we did some research on measurements with snow pillows. During the 4 years I was there we depended more on correlation with seasonal rainfall amounts than on use of water content in the snow. I moved on to NWS HQ, Office of Hydrology in 1967 and continued 10 years before I retired Dec 31, 1977. If I can live 7 more years I will have been retired as long as my entire career. Hydrology workers and their families were close knit socially so it was the most delightful job I ever had. With NOAA the U S Weather Bureau became the National Weather Service and red tape became more binding. The Office of Hydrology was administratively on a level with the Office of Meteorology for many years. But it was always a struggle to get the same recognition with regard to budget and Civil Service grades for our personnel. It seems hydrology is now downgraded far below the level of the meteorology portion of the NWS. Without being there, I'm unaware of how this state of affairs evolved.

Eric Anderson (HRL retiree) reflection on visits to this RFC: _My first real visit to the Sacramento RFC was in 1975 (I had briefly visited once in 1964 while going to school prior to starting to work for the Weather Service). Bob Burnash was the HIC and ruled the office completely. Everything was done Bob's way. The RFC was collocated with the California Department of Water Resources (DWR). Bob even exerted strong influence over the DWR personal. When I asked one of the DWR people why things were done a certain way, the answer was "because God said so". Bob had developed a snow model to go with the Sacramento soil moisture model. It relied on many of the equations used in Bill Winston's procedure (Bob previously worked at Cincinnati). He had prepared a write-up of the model and sent it to Al Flanders at OH who gave me a copy. I assumed that Bob had given the RFC staff a copy also, but found out that wasn't the case. While I was at the RFC Don Colton was applying the snow model to a watershed

and following exactly the steps that Burnash had specified. Don indicated that after having worked with the model for awhile he thought he had figured out some of the details. I asked Don whether he had seen Bob's write-up of the model and he said he didn't know one existed. I mentioned this to Bob as he walked by and he got quite flustered and walked away. Basically he wanted the staff to do things a certain way without understanding how a given model or procedure was structured. I later visited the RFC soon after Burnash retired. Larry Ferral was then the HIC. Larry had me and the staff out to his house for dinner one evening and the staff spent the whole night telling Burnash stories. It should be noted that though Bob, with assistance from Larry and Richard McGuire (DWR), developed the Sacramento Model, the RFC never used the model operationally until they started using NWSRFS. The RFC never produced operational software to use the Sacramento Model for forecasting even though they calibrated the model to most of the headwater basins in the state. Operational forecasts were based on an API procedure until the RFC switched to using NWSRFS.

Carl Relyea (OHRFC retiree) has many stories about Bob Burnash, the first HIC of this RFC. Mr. Relyea recalls a conference once where Bob Burnash said "Let's skip today's session and go to Williamsburg." Which we did. Bob is what every organization needs; a gifted maverick. Once when he was still on the staff of the Cincinnati RFC, he came up to me saying triumphantly, "Loot, I've found a new way to route streamflow, using a variable multiplier in an equation." I had to reply, "that's the same as the Muskingum equation x."¹ He was crestfallen, but brave. His ability was later recognized by the Office of Hydrology, which sent him to set up the new RFC at Sacramento, CA.

The 1970s²

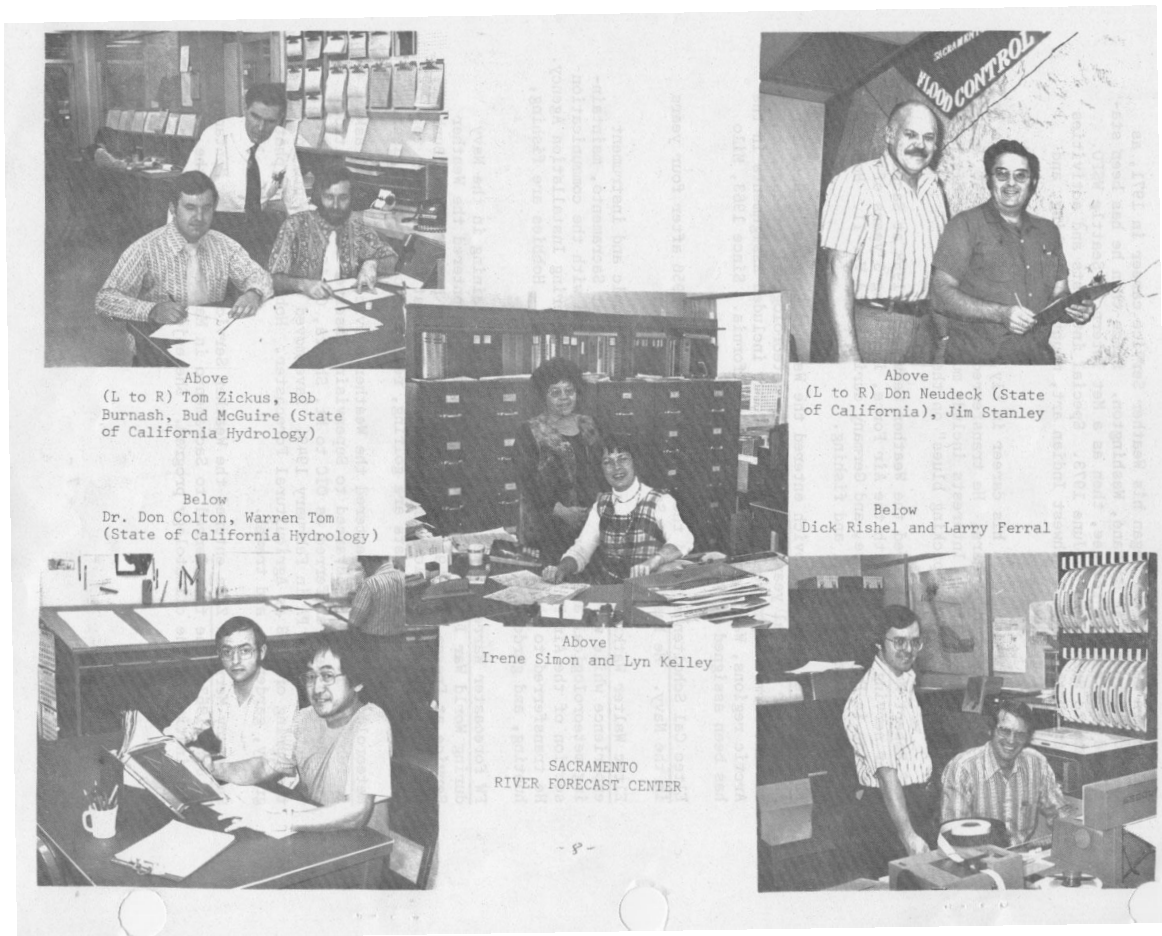
Robert Burnash (HIC) spent some time in the Navy prior to signing up with NWS. Prior to his assignment at the Sacramento RFC, he served as Hydrologist at the Cincinnati RFC. His hobbies are hydrology and water related sports.

Larry Ferral (PA) is a native Californian—Anderson is his home town. He served in the U.S. Army before joining the NWS. At the time he signed on with the Sacramento RFC, he was in his sixth year as Hydrologists for the Office of Hydrology, Washington, D.C. His hobbies are skiing, bicycling, and law.

Don Colton obtained his PhD in Atmospheric Sciences at the University of Washington in Seattle. He came to the Sacramento RFC originally as a student trainee, and in January 1973 we were fortunate enough to obtain his services on a permanent basis. Don enjoys camping, rafting, and basketball.

¹ The Muskingum equation was developed by the U.S. Army Corps of Engineers.

² Photos and profiles from early 1970s Western Region Headquarters publication (title and date of publication unknown)



Lyn Kelley is secretary to the RFC group. Her home town is Salt Lake City, where she attended East High School, the University of Utah, and obtained his business education at the LDS business College. She was one of the first on board at the Sacramento RFC when it was started in 1963. Among her interests are gardening (1 camellia, 4 rosebushes, and 1 lemon tree), and chemistry (keeping the water balanced in the swimming pool).

Dick Rishel is a native of Wichita, Kansas. He was Weather Officer in the Air Force in California. Dick signed on with the NWS as student trainee in the Wichita WSO, and was later assigned as full-time meteorologist at the Phoenix WSFO.

Irene Simon (Computer Operator) came to the RFC in March of 1963, after 7 ½ years with the Federal Trade Commission in Washington, D.C.. She is presently working toward her BS degree in Computer Science in evening college. When she can squeeze it into her busy schedule, she loves to sing, play the piano, and bowl (she bowls on several leagues).

Jim Stanley (Flash-Flood Hydrologist) was born in Joseph, Oregon. He served in the U.S. Navy as Aerial Photographer in the South Pacific and Far East. Before Jim signed on with the RFC in June of 1963, he was OSU staff photographer, and was later Research Assistant with the Department of Oceanography at OSU. He is very active in community affairs, and his hobbies include photography and outdoor activities.

Thomas Zickus (Hydrologist) began his career with NWS in January 1969. After completing nearly 4 years in the Research Branch of the R&D Lab in the Office of Hydrology, Silver Spring, Maryland, he came to the RFC in August 1972. Tom attributes his enthusiasm for skiing, participation parts, and camping to his Lithuanian heritage and background. Having completed two years of graduate study in Administration, he hopes eventually to enter the management field.